

No. 633,019.

Patented Sept. 12, 1899.

H. LUDELING.

TILE.

(Application filed Apr. 24, 1899.)

(No Model.)

FIG. 1.

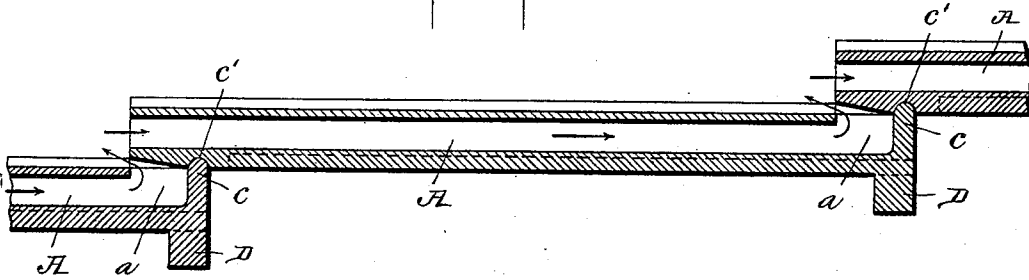


FIG. 2.

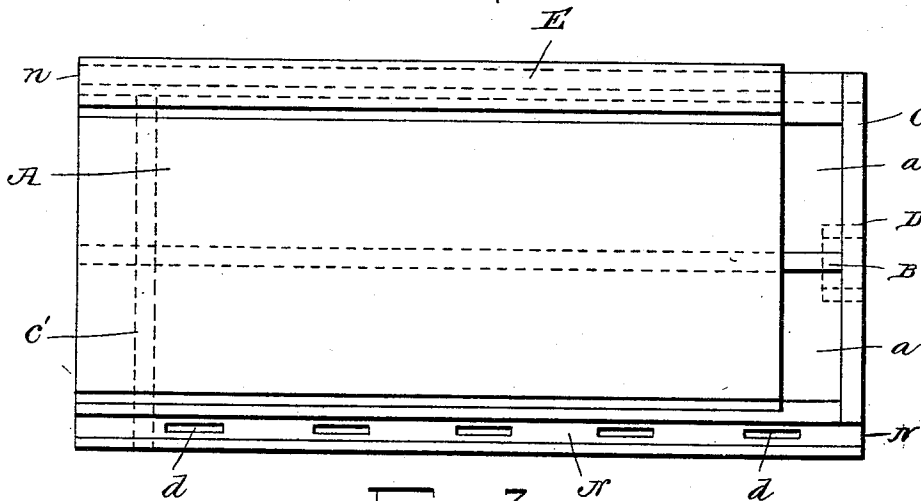
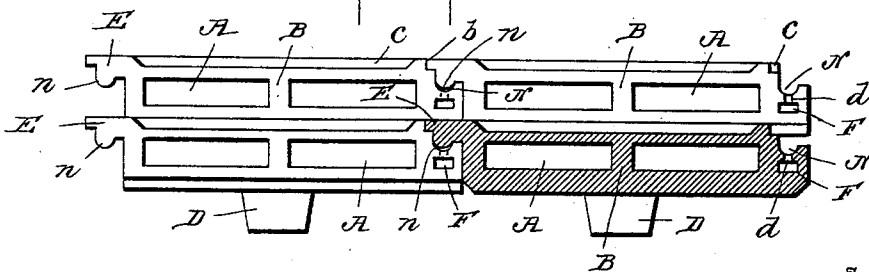


FIG. 3.



Witnesses

Harry L. Ames.

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HENDRIK LUDELING, OF PADANG, SUMATRA.

TILE.

SPECIFICATION forming part of Letters Patent No. 633,019, dated September 12, 1899.

Application filed April 24, 1899. Serial No. 714,315. (No model.)

To all whom it may concern:

Be it known that I, HENDRIK LUDELING, gentleman, a subject of the Queen of the Netherlands, and a resident of Loeböeh Sikaping, Padangsche Bovenlanden, Sumatra's Westkust, Dutch East Indies, have invented certain new and useful Improvements in Roofing-Tiles, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section or partial side elevation of three tiles resting one on the other; Fig. 2, a plan of the center one of these three tiles, and Fig. 3 a front elevation or transverse section of four tiles laid one on the other.

This invention relates to a new construction of roofing or pan tiles, and has for its object the arrangement of air-passages in the tiles, whereby an effective circulation of air is obtained therein, as well also as a better connection of the tiles to each other. The air enters at the lower end into passages formed over the whole breadth between the upper and lower sides of the tile and escapes at the upper end, on which rests the tile above. The under side of the tile is thus protected from the heat of the sun, since the tile is cooled by the air flowing through it.

The interconnection of the tiles placed loosely on each other both with the ones by the side and also with the ones above is such that neither the outer air, dust, nor rain-water can penetrate through the roof.

Since the tiles are perfectly water-tight and only become hot at the upper side, subjected to the heat of the sun, the said tiles are especially suited for tropical and subtropical countries.

Referring to the drawings, in the tiles are arranged two longitudinal passages A. These passages open at or near the short edges of the tile and are formed by the longitudinal edges and a central partition B between the upper and under sides of the tile. The passages A are provided at the upper end of the tile with openings *a*, Figs. 1 and 2, and there is arranged at this end a transverse fillet C, half-round at the top, which terminates the passage A and forms the bearing or support for the tile lying above. Each tile is provided at the under side of the other or lower

end with a corresponding half-round groove C', and the tiles are provided on the under side, in the middle of the upper short side, with a projection D, whereby they are suspended on the laths of the frame of the roof. The upper side of the tiles is depressed or sunk, and the under side is cut off obliquely at the lower end, which extends over the openings *a* of the next lower tile, so that a slit is formed between the sunk upper side of each tile and the inclined under side of the next higher tile. From this it will be seen that the passages A at the lower end stand freely open, and the air entering there can escape freely at the upper end through the openings *a*. (See the arrow in Fig. 1.) The wind which strikes the roof will now enter into the passages of the tiles at the lower ends and escape at the upper ends, and thus keep the tiles cool, while, as shown in the drawings, the water flowing down cannot get into the passages. The lateral interconnection of the adjacent tiles is also different to that generally employed, and in this I have been obliged to retain the usual weight and the ordinary breadth of the tiles. On the right-hand side is arranged a half-round longitudinal groove N, which is open at the top and extends up to half the thickness of the tile along the whole length thereof, and at the left-hand side the tile is provided with a strip or flange E, level with the upper side, which flange bears on its under side a half-round fillet and at the upper end only extends to the opening *a*, Figs. 2 and 3. As shown in Fig. 2, the transverse fillet C at the right-hand side only extends up to the groove N. By means of the fillet *n* resting in the groove N the tiles thus also close perfectly tight together at the sides. Only a small part of the water which falls on the joint *b* will pass into the groove N, and in order to isolate this, space is left between the groove and the fillet, since their semicircles are drawn with different radii. The groove N is in connection through five or other suitable number of apertures *d* with a longitudinal passage F, in which any water which may have entered the groove runs off and can empty itself onto the tile lying next below.

For economy in material the lower lateral edges of the tile are beveled off. The tiles are made of Portland cement and sand mixed

in suitable proportions and can be manufactured by machinery in stone-presses.

What I claim is—

- 5 1. A tile provided with air-passages separated by a central partition arranged between the upper and lower sides of the tile, which passages are open at the lower end and have an opening at their upper end overlapped by the tile next above which rests by means of
10 a groove on a transverse fillet in such a manner that a slit is formed between the sunk upper side of one tile and the beveled-off under side of the next tile above, substantially as, and for the purposes, hereinbefore described.
- 15 2. A tile having a groove at one side and a fillet at the other side thereof, the said fillet being arranged on the under side of a flange

or strip which is level with the upper surface of the tile, an open space being left between the said groove and fillet and a special discharge - passage is provided beneath the groove, which passage is in communication through apertures with the said groove and extends to the lower end of the tile, substantially as, and for the purposes, hereinbefore 25 described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENDRIK LUDELING.

Witnesses:

C. WHUETEN,
SIG. DUITTNER.